

What is claimed is:

~~PATENT CLAIMS~~

1. Microscope, especially for the inspection in semiconductor manufacture, with a pulsed laser for illumination, preferably in the UV range, wherein at least one rotating diffusion disk is arranged behind the laser for the homogenization of the illumination.
2. Microscope according to claim 1, with two diffusion disks rotating in opposite directions arranged directly or indirectly behind each other in the illumination ray path.
3. Microscope according to one of the preceding claims, wherein the diffusion disk is either of a granulated or of a holographically produced design.
4. Microscope according to one of the preceding claims, with a rotation speed of at least such a magnitude that a rotation by at least one grain size and/or the resolution limit of a holographically generated structure or by the length of a structure takes place between two laser pulses.
5. Microscope according to one of the preceding claims, with an illumination laser wavelength which essentially corresponds to the illumination wavelength during the manufacture of semiconductors, preferably in the range of 193nm or 248nm or 266nm or 366nm, all with a tolerance of $\pm 2\text{nm}$.

add A1 / add B4

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